FOOD BIOCHEMISTRY

Study Programme: MIMV **Curricular Year: 3rd** **Semester: 1st** **Optional** **Credits: 2.5 ECTS**
Lecturer(s): José A. Mestre Prates (CCP e R), Cristina Alfaia, Paula Lopes

1. Contact hours:
Lectures – 20, Practicals – 10, Total – 30

2. Objectives:
Learning of the general concepts and fundamentals of chemical composition, analytical methodology and food properties, as well as its chemical reactivity during processing and storage.

3. Programme:
3.1. Theoretical: Introduction to food biochemistry; water; proteins; enzymes; minerals; lipids; vitamins; carbohydrates; additives; biochemistry of edible muscle tissues; biochemistry of milk; biochemistry of eggs; biochemistry of honey; biochemistry of edible plant tissues; bioactive components; food biotechnology.
3.2. Practical: Determination of total lipids; fatty acid and CLA profiles; determination of cholesterol; determination of lipossoluble vitamins; extraction and quantification of total RNA from food systems; quantification of food components by RT-PCR.

4. Bibliography:
1. Prates, J. et al. (2021) - Textos de Apoio das Aulas, 2021. http://elearning.fmv.utl.pt/moodle.
2. Damodaran, S. et al. (2008) - Fennema's Food Chemistry, CRC Press (Taylor & Francis Group), 4th ed., 2008.
3. Tabela da Composição de Alimentos, Instituto Nacional de Saúde Dr. Ricardo Jorge (INSA), Centro de Segurança Alimentar e Nutrição, Lisboa, 2006.
4. Francis, F. (editor) - Wiley Encyclopedia of Food Science and Technology, 4 Volumes, 2nd ed., 1999.

5. Assessment:
Theoretical: written examination (75% of final classification). Practical: written examination (25% of final classification).